NAME _____ DATE _____ PERIOD _____

8-1 Skills Practice

Geometric Mean

Find the geometric mean between each pair of numbers.

1. 2 and 8
4

2. 9 and 36
18

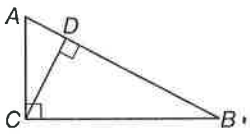
3. 4 and 7
$2\sqrt{7}$

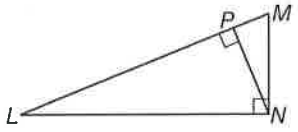
4. 5 and 10
$5\sqrt{2}$

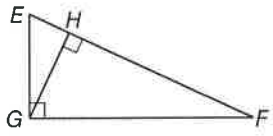
5. 28 and 14
$14\sqrt{2}$

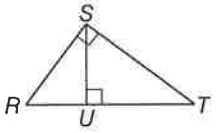
6. 7 and 36
$6\sqrt{7}$

Write a similarity statement identifying the three similar triangles in the figure.

7. 

8. 

9. 

10. 

$y = 6\sqrt{3}$

$\frac{12}{y} = \frac{y}{9}$

$z = 3\sqrt{3}$

$\frac{3}{z} = \frac{z}{9}$

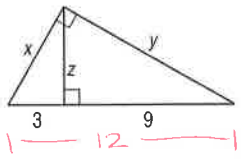
$\frac{10}{x} = \frac{x}{4}$

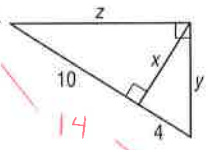
$x = 2\sqrt{10}$

$\frac{14}{y} = \frac{y}{4}$

$y = 2\sqrt{14}$

Find x, y and z.

11. 

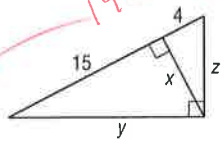
12. 

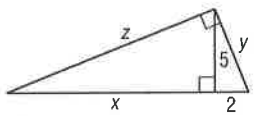
$\frac{12}{x} = \frac{x}{3}$

$x = 6$

$\frac{14}{z} = \frac{z}{10}$

$z = 2\sqrt{35}$

13. 

14. 

$\frac{15}{x} = \frac{x}{4}$

$x = 2\sqrt{15}$

$\frac{x}{5} = \frac{5}{2}$

$x = \frac{25}{2} = 12\frac{1}{2}$

$\frac{19}{y} = \frac{y}{15}$

$y = \sqrt{285}$

$\frac{19}{z} = \frac{z}{4}$

$z = 2\sqrt{19}$

$\frac{14\frac{1}{2}}{x+2} = \frac{z}{12\frac{1}{2}}$

$z^2 = 181.25$

$z \approx 13.5$

$\frac{14\frac{1}{2}}{x+2} = \frac{y}{2}$

$y^2 = 29$

$y = \sqrt{29}$

$y \approx 5.4$

NAME _____ DATE _____ PERIOD _____

8-1 Practice

Geometric Mean

Find the geometric mean between each pair of numbers.

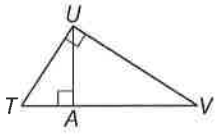
1. 8 and 12

2. 3 and 15

3. $\frac{4}{5}$ and 2

Write a similarity statement identifying the three similar triangles in the figure.

4.



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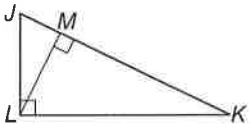
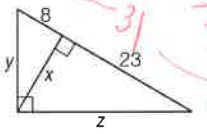
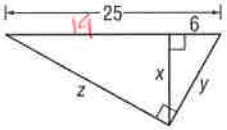


Find x, y, and z.

6.



7.



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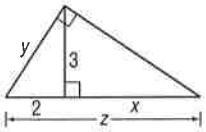
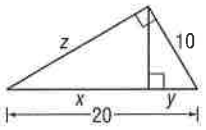


9.



10. **CIVIL** An airport, a factory, and a shopping center are at the vertices of a right triangle formed by three highways. The airport and factory are 6.0 miles apart. Their distances from the shopping center are 3.6 miles and 4.8 miles, respectively. A service road will be constructed from the shopping center to the highway that connects the airport and factory. What is the shortest possible length for the service road? Round to the nearest hundredth.

See inline solution